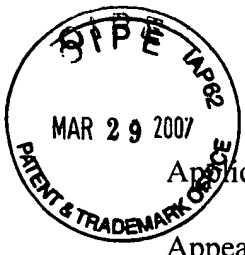


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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application of: Kenneth S. Bloom, et al.

Appeal No.:

Serial No.: 09/994,554

Filing Date: November 27, 2001

Confirmation No.: 8757

Title: PLASTIC CLOSURE, METHOD OF MANUFACTURE, AND CLOSURE AND CONTAINER PACKAGE FOR HIGH TEMPERATURE APPLICATIONS

Attorney Docket: 17724

Group Art Unit: 3727

Examiner: R. A. Hylton

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

On March 26, 2007
(Date)

Diana Castillo
(Name of Person Signing Paper)

Diana Castillo
(Signature of Person Signing Paper)

APPEAL BRIEF

Applicant has appealed the rejection of claims 3-24, 34-46 and 59-65. Notice of Appeal with appropriate fee was filed on December 27, 2006, this Appeal Brief therefore being due on February 27, 2007.

Please charge the additional appeal fee, together with any other charges or fees associated with this submission, to Account No. 15-0875 (Owens-Illinois).

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1. Real Party In Interest

The present application is assigned to Owens-Illinois Closure Inc., which is a wholly owned subsidiary of OI Plastic Products FTS Inc., which is a wholly owned subsidiary of Owens-Illinois Group, Inc., which is a wholly owned subsidiary of Owens-Illinois, Inc., who is the real party in interest in this appeal.

2. Related Appeals and Interferences

There are no related appeals or interferences.

3. Status of Claims

All claims 3-24, 34-46 and 59-65 remaining in the present application have been rejected, and are the subject of the present appeal.

Claims 1-2, 25-33 and 47-58 have been canceled (subject to possible later filing of a divisional application).

No claims have been allowed.

4. Status of Amendments After Final Rejection

No amendments after final rejection have been filed.

5. Summary of the Claimed Subject Matter

The present patent application contains claims directed to a closure (independent claims 16 and 59-62) and to a package (independent claims 38 and 63), which are particularly well adapted for high-temperature applications (specification page 2, lines 3-5). Such high-temperature applications include retort applications, for example, in which the package is filled with product and

subjected to a temperature of 265°F for 15 minutes, for example (page 2, lines 9-10). In this and other exemplary high-temperature situations, the internal pressure within the closure and container package can increase dramatically, which can distort or dome the closure base wall and lift the sealing liner away from sealing engagement with the container neck finish (page 2, lines 12-15).

Independent claim 16, for example, recites a plastic closure 28 that comprises a plastic closure shell including a base wall 30 and a peripheral skirt 32 with an internal thread 34 for securing the closure to a container finish 26 (page 7, lines 12-14 and 24-25). A plastic disk 46 is loosely retained parallel to but separate from base wall 30 (page 8, lines 1-4 and 15-18; page 9, lines 6-9). The disk includes a flat base 50 with a peripheral portion 52 (page 8, lines 5-6), an axially extending protrusion 64 for engaging an undersurface of the base wall to space the disk from the base wall (page 8, lines 15-19), and an annular ring 54 extending axially from the base adjacent to but spaced from a periphery of the disk (page 8, lines 8-11). A resilient liner 48 is molded onto the disk covering at least a central portion of

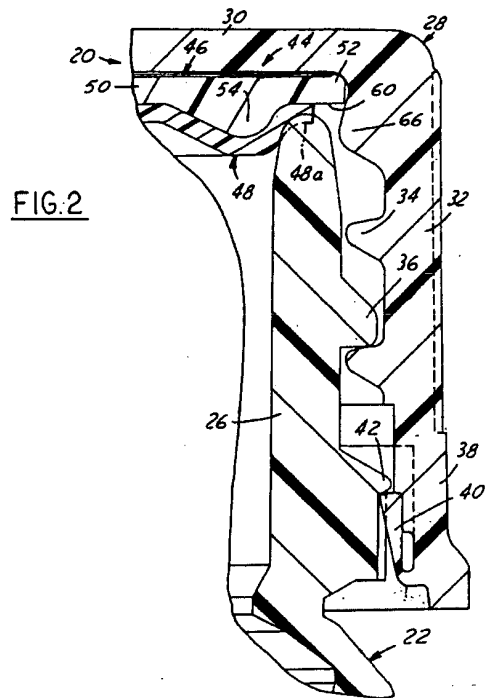


FIG. 2

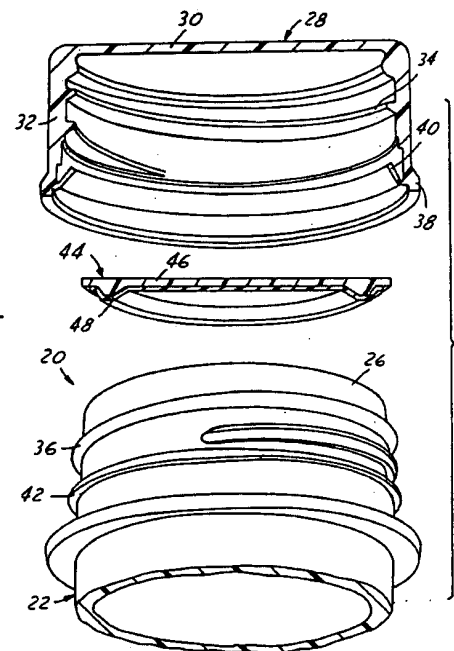


FIG. 3

the base 50 and the ring 54 (page 8, lines 3-4; page 9, lines 9-10 and lines 20-21). The ring 54 urges the liner into sealing engagement with a radially inner edge of a container finish 26 when the closure is secured to the container finish (page 9, line 23 to page 10, line 3). Independent claims 59 and 60 contain similar recitations. Dependant claim 19 additionally recites that the liner includes a barrier resin to resist migration of gases, water vapor and flavorants through the liner (page 9, lines 15-17).

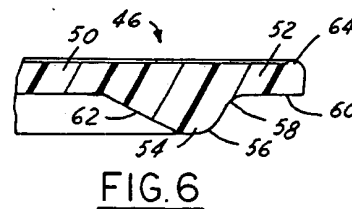


FIG. 6

Independent claim 62 is directed to the plastic closure embodiment illustrated in FIGS. 7-10, additionally reciting that the disk, 74 in this embodiment, includes an annular rib 78 around a radially outer edge of the disk extending away from the base wall 30 and underlying the liner 76 for engaging the liner against a radially outer edge of a container finish 26 when the closure is secured to the container finish (page 10, lines 15-17; page 11, lines 3-5).

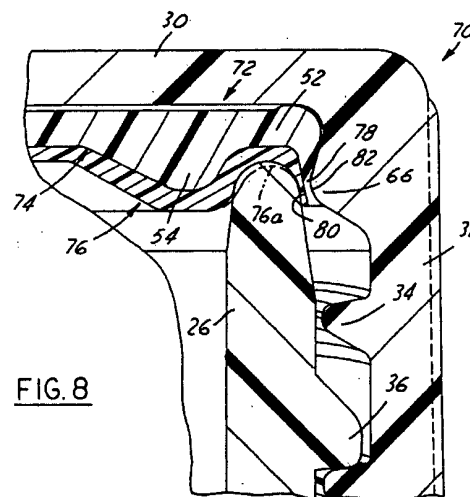


FIG. 8

Independent claims 59-61 are directed to a plastic closure and contain limitations similar to those in claims 16 and 62 discussed above. Independent claims 38 and 63 are directed to a closure and container package that includes a plastic closure and a container. The plastic closure is recited in claim 38 generally in the same language as in claim 16 discussed above, and the plastic closure in claim 63 is recited in generally the same way as in claim 62 discussed above. (The multiplicity of independent claims resulted in part from provisional indications of allowable subject matter in dependent claims during prosecution of the application, which subsequently were withdrawn.)

6. Grounds of Rejection to be Reviewed on Appeal

All claims 3-24, 34-46 and 59-65 are rejected as failing to comply with the written description requirement of 35 USC 112, first paragraph, as failing to comply with the enablement requirement of 35 USC 112, first paragraph, and as failing particularly to point out and distinctly to claim the subject matter of the invention as required in 35 USC 112, second paragraph. All three of these rejections are based upon the claim language calling for the disk 46 to be loosely retained parallel to but separate from the base wall 30.

Claims 3-8, 13-20, 37-42, 59-60 and 64-65 are rejected over Takano 5,984,124 in view of McBride 6,761,275.

Claims 11-12, 22-24, 45-46 and 61-63 are rejected over Racine 6,881,793 in view of McBride 6,761,275.

The prior art rejections will be argued in this Appeal Brief with reference to independent claim 16 with dependent claim 19, and independent claim 62. For purposes of this

appeal only, the prior art rejections of the remaining independent and dependent claims will be considered to stand or fall with the rejections of claims 16, 19 and 62.

7. Argument

All claims 3-24, 34-46 and 59-65 comply with the written description requirement of 35 USC 112, first paragraph

All independent claims of the present application recite that the plastic disk 46 is loosely retained parallel to but separate from the base wall 30 of the closure shell. It is noted that this recitation was included at lines 4-5 of independent claim 1 of the application as filed:

a plastic disk loosely retained within said shell parallel to but separate from said base wall.

The following is quoted from page 8, lines 1-2 and 15-18 of the application as filed:

In accordance with one aspect of the present invention, a liner disk subassembly 44 is loosely captured within closure 28 adjacent to base wall 30. A bead 64 extends axially upwardly from peripheral portion 52 around the peripheral edge of the disk for engagement with the opposing undersurface of closure base wall 30 (FIG. 2) to position the body of the disk parallel to but spaced from the opposing surface of the closure base wall.

The following is quoted from page 9, lines 4-9 of the application text as filed:

[A] rounded bead 66 [FIG. 2 above] extends radially inwardly from closure skirt 32 adjacent to but spaced from the undersurface of closure base wall 30. Bead 66 may be circumferentially continuous or segmented. The peripheral portion 52 of disk 46 is loosely captured between bead 66 and base wall 30. (Liner disk subassembly 44 is loosely captured within the closure shell until the closure is secured to the container finish, at which point the liner disk is tightly clamped between the closure base wall and the container finish.)

Thus, the application as filed fully describes that the disk 46 is loosely retained within the closure shell 28 parallel to but spaced from the closure base wall 30. Furthermore, the application as filed

discloses exemplary structure in the form of bead 66 to accomplish this function. Thus, the application as filed contains a written description of the subject matter recited in the claims that fully complies with 35 USC 112, first paragraph.

All claims 3-4, 34-46 and 59-65 comply with the enablement requirement of 35 USC 112, first paragraph

All independent claims of the present application recite that the plastic disk 46 is loosely retained parallel to but separate from the base wall 30 of the closure shell 28. It is noted that this recitation was included at lines 4-5 of independent claim 1 of the application as filed:

a plastic disk loosely retained within said shell parallel to but separate from said base wall.

The following is quoted from page 8, lines 1-2 and 15-18 of the application as filed:

In accordance with one aspect of the present invention, a liner disk subassembly 44 is loosely captured within closure 28 adjacent to base wall 30. A bead 64 extends axially upwardly from peripheral portion 52 around the peripheral edge of the disk for engagement with the opposing undersurface of closure base wall 30 (FIG. 2) to position the body of the disk parallel to but spaced from the opposing surface of the closure base wall.

The following is quoted from page 9, lines 4-9 of the application text as filed:

[A] rounded bead 66 [FIG. 2 above] extends radially inwardly from closure skirt 32 adjacent to but spaced from the undersurface of closure base wall 30. Bead 66 may be circumferentially continuous or segmented. The peripheral portion 52 of disk 46 is loosely captured between bead 66 and base wall 30. (Liner disk subassembly 44 is loosely captured within the closure shell until the closure is secured to the container finish, at which point the liner disk is tightly clamped between the closure base wall and the container finish.)

Thus, the application as filed fully describes that the disk 46 is loosely retained within the closure shell 28 parallel to but spaced from the closure base wall 30. Furthermore, the application as filed

discloses exemplary structure in the form of bead 66 to accomplish this function. Thus, the application as filed contains a written description of the subject matter recited in the claims, which fully complies with the enablement requirement of 35 USC 112, first paragraph.

All claims 3-24, 34-46 and 59-65 particularly point out and distinctly claim the invention as required in 35 USC 112, second paragraph

All independent claims of the present application recite that the plastic disk 46 is loosely retained parallel to but separate from the base wall 30 of the closure shell 28. It is noted that this recitation was included at lines 4-5 of independent claim 1 of the application as filed:

a plastic disk loosely retained within said shell parallel to but separate from said base wall.

The following is quoted from page 8, lines 1-2 and 15-18 of the application as filed:

In accordance with one aspect of the present invention, a liner disk subassembly 44 is loosely captured within closure 28 adjacent to base wall 30. A bead 64 extends axially upwardly from peripheral portion 52 around the peripheral edge of the disk for engagement with the opposing undersurface of closure base wall 30 (FIG. 2) to position the body of the disk parallel to but spaced from the opposing surface of the closure base wall.

The following is quoted from page 9, lines 4-9 of the application text as filed:

[A] rounded bead 66 [FIG. 2 above] extends radially inwardly from closure skirt 32 adjacent to but spaced from the undersurface of closure base wall 30. Bead 66 may be circumferentially continuous or segmented. The peripheral portion 52 of disk 46 is loosely captured between bead 66 and base wall 30. (Liner disk subassembly 44 is loosely captured within the closure shell until the closure is secured to the container finish, at which point the liner disk is tightly clamped between the closure base wall and the container finish.)

Thus, the application as filed fully describes that the disk 46 is loosely retained within the closure shell 28 parallel to but spaced from the closure base wall 30. Furthermore, the application as filed

discloses exemplary structure in the form of bead 66 to accomplish this function. Thus, the claims of the application as filed, and the claims now under appeal, particularly point out and distinctly claim the subject matter that applicant considers to be the invention, and fully comply with 35 USC 112, second paragraph.

Claims 3-8, 13-20, 37-42, 59-60 and 64-65 are patentable over Takano 5,984,124 combined with McBride 6,761, 275

Takano discloses a closure that has a "packing" 9 disposed within a cap 6. The top wall 1 of the cap 6 is imperforate. The top surface of the packing 9 has grooves 13 and gaps N that provide an "air reservoir" 12 between the packing 9 and the top wall 1 of the cap 6. This air reservoir is a primary feature of the Takano disclosure, being discussed in detail at column 2, lines 26-30, column 3, lines 40-66

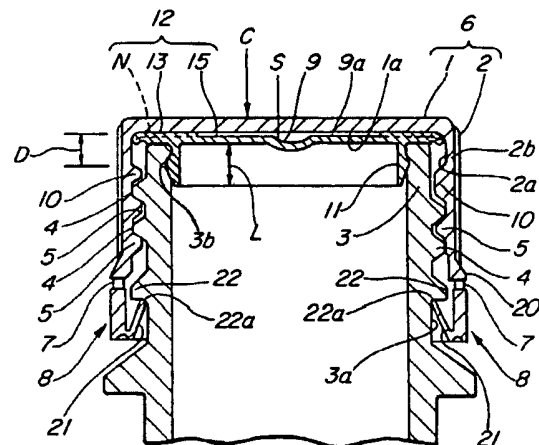


FIG. 1

and column 5, line 52 to column 6, line 4, for example. The purpose of this air reservoir is to permit rotation of cap 6 while packing 9 remains in place, at least until the pilfer-proof band 8 is severed from the cap. The packing 9 has a sealing member 11 that is received within the mouth of the container finish forming a plug seal (column 5, lines 49-52 and column 6, lines 52-54).

The McBride reference discloses a two-piece closure that includes an inwardly domed disk 30 (FIGS. 1 and 2) with a seal layer 40 of resilient polymer material applied to the bottom

surface and the annular sidewall of the dome.

The domed portion 35 of the disk 30 flexes outwardly under pressure P to urge the annular seal layer 44 into sealing engagement with the inside edge of the container neck finish.

Although the McBride reference unquestionably discloses a resilient liner molded onto the disk 30, there is no basis in either this reference or

the Takano reference for combining these two

references as suggested by the Examiner. In the seal structure disclosed in the primary Takano reference, there is no need for a resilient liner layer, so the implementation of McBride into the Takano reference can be and has been made only with the impermissible benefit of hindsight using the present application claims for combining and interpreting the references.

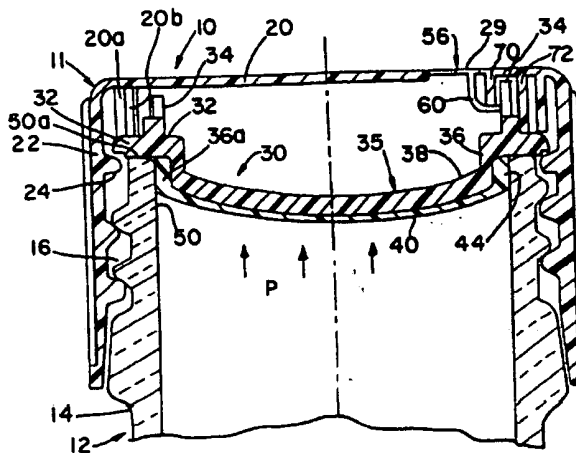


FIG. 2

[I]n order to meet the terms of the claims on appeal, the elements of the [prior art] device would have to be arranged in a manner different from that disclosed by [the art]. The elements of the reference would also be required to coact differently from the way they coact in the arrangement disclosed by the reference. The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide motivation or reason for the worker in the art, without the benefit of applicant's specification, to make the necessary changes in the reference device.

Ex parte Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (POBA 1984). See also *Fromsom v.*

Advanced Offset Plate, Inc., 755 F.2d 1549, 225 USPQ 26 (CAFC 1985); *In re Sernaker*, 702 F.2d

989, 217 USPQ 1 (CAFC 1983) and *Ex parte Stauber*, 208 USPQ 945, 946 (POBA 1980). Simply stated:

It is wrong to use the [application] as a guide through the maze of prior art references, Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

Orthopaedic Equipment Co., Inc. v. U.S., 702 F.2d 1005, 217 U.S.P.Q. 193, 199 (Fed. Cir. 1983). See also *In re Fritch*, 972 F.2d 1260 23 U.S.P.Q.2d 1780 (Fed. Cir. 1942) (“It is impermissible to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art.” 23 U.S.P.Q.2d at 1784); *In re Pavlecka*, 138 U.S.P.Q. 152 (CCPA 1953); *Ex parte Garrett*, 132 USPQ 514 (POBA 1961).

Thus, independent claim 16 differs from the disclosure in Takano by reciting a resilient liner molded onto the disk covering at least a central portion of the base of the disk and a ring extending from the disk so that the ring urges the liner into sealing engagement with a radially inner edge of the container finish when the closure is secured to the container finish. The material of the packing 9 in Takano is not disclosed, but it is clear from the text of that reference that the packing 9 is to perform the sealing function in and of itself. There is absolutely no basis for suggesting that a “resilient liner” should be provided on the packing 9 in Takano, in view of McBride or otherwise. The same arguments apply to independent claims 38, 59 and 60.

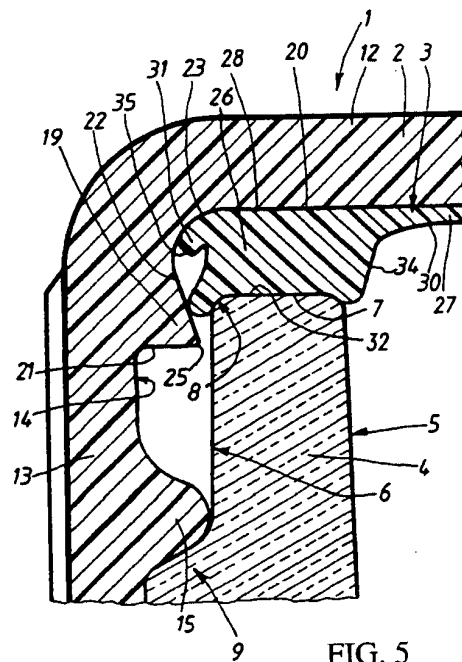
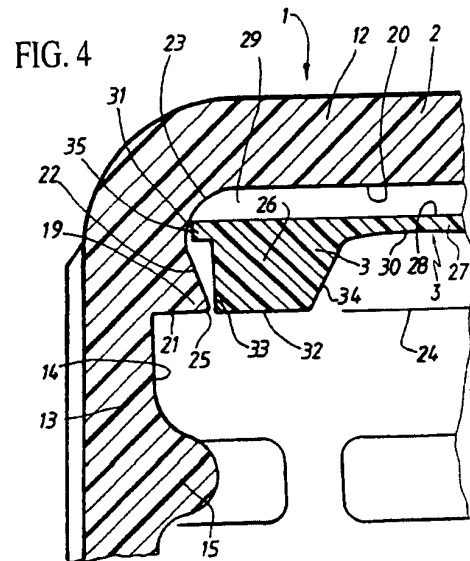
Dependent claim 19 recites that the liner includes a barrier resin material to resist migration of gases, water vapor or flavorants through the liner. McBride teaches that the seal layer 40 of that reference can be Kraton, which is a thermoplastic rubber, or Santoprene, which is an

EPDM/PP elastomeric alloy. Neither of these materials is a barrier resin as recited in claim 19. The same arguments apply to dependent claims 7, 15, 37 and 41.

Thus, representative claims 16 and 19 clearly are allowable over the combination of Takano and McBride.

Claims 11-12, 22-24, 45-46 and 61-63 are allowable over Racine 6,581,793 combined with McBride 6,761,275

The Racine reference discloses a closure that includes a cap or shell 2 and an internal disk-shaped fluid seal 3. The fluid seal 3 itself is "made of plastics material capable of being elastically deformed" (column 2, lines 20-21), as clearly shown by comparing FIG. 4 with FIG. 5, in which the closure is assembled to a container neck finish.



The McBride reference discloses a two-piece closure that includes an inwardly domed disk 30 (FIGS. 1 and 2) with a seal layer 40 of resilient polymer material applied to the bottom surface and the annular sidewall of the dome. The domed portion 35 of the disk 30 flexes outwardly under pressure P to urge the annular seal layer 44 into sealing engagement with the inside edge of the container neck finish. However, inasmuch as

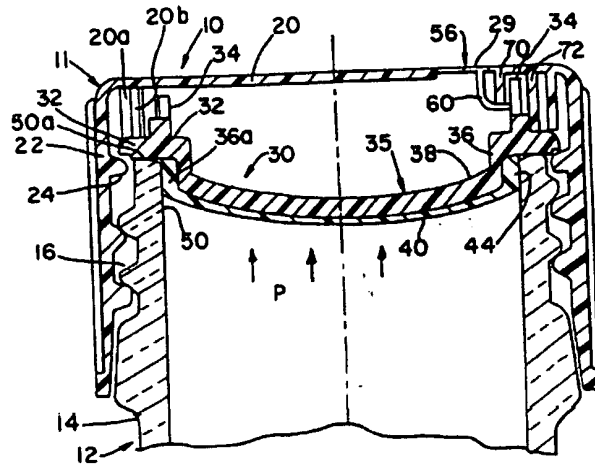


FIG.2

the disk-shaped seal itself is of resilient liner-type material in Racine, there is no motivation or reason for persons of ordinary skill in the art to provide an additional resilient liner molded onto the Racine disk as expressly required in independent claims 62, in view of McBride or otherwise.

Independent claim 62 contains limitations similar to those in claim 16 discussed above, and additionally recites the annular rib 78 around a radially outer edge of the disk base extending away from the base wall and underlying the liner for engaging the liner against a radially outer edge of the container finish when the closure is secured to the container finish. As described at page 11, lines 5-8 of the application text, this rib and the underlying liner maintain a seal against the outer surface of the container finish even if doming of the base wall causes a loss of seal at the inner edge of the finish. There is no such annular rib disclosed or suggested in either Racine or McBride. Indeed, the whole point of the McBride disclosure is to provide the seal layer 40 around the inside edge of the container neck finish to form a seal when the domed liner disk 30 is subjected

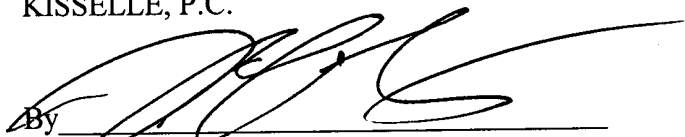
to internal pressure. There is no disclosure or suggestion in either Racine or McBride of providing an annular rib around the radially outer edge of the disk base and/or molding a seal liner onto the disk in such a way that the annular rib underlies the liner for engaging the liner against a radially outer edge of the container neck finish when the closure is secured to the container neck finish. The combination of Racine and McBride does not disclose or suggest provision of a plastic disk having an annular ring extending axially from the base of the disk and covered by the liner so that the ring urges the liner into sealing engagement with a radially outer edge of the container finish. Thus, representative claim 62 clearly is allowable over the combination of Racine and McBride. The same argument applies to independent claims 61 and 63, and to dependent claims 9, 34 and 43.

It therefore is believed and respectfully submitted that the rejection of claims 3-24, 34-46 and 59-65 should be reversed, and that these claims should be allowed.

Please charge any fees associated with this submission to Account No. 15-0875 (Owens-Illinois).

Respectfully submitted,

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8. Appendix of Appealed Claims

3.

1 The closure set forth in claim 59 wherein said disk comprises a flat base from which
2 said annular ring extends.

4.

1 The closure set forth in claim 3 wherein said ring has a rounded convex portion that
2 extends from an axial edge of said ring and a rounded concave portion that extends from said convex
3 portion to a flat axially facing surface of said base.

5.

1 The closure set forth in claim 4 wherein said disk base has a central portion within
2 said ring and a peripheral portion outside of said ring, said central and peripheral portions being of
3 identical thickness.

6.

1 The closure set forth in claim 5 wherein said liner is of uniform thickness over said
2 central portion, said ring and said peripheral portion of said disk.

7.

1 The closure set forth in claim 6 wherein said liner includes a barrier resin material
2 to resist migration of gases, water vapor or flavorants through said liner.

8.

1 The closure set forth in claim 5 wherein said protrusion includes an axially extending
2 bead around a peripheral portion of said disk base to space said disk base from said base wall of said
3 shell.

9.

1 The closure set forth in claim 3 wherein said disk further includes an annular rib
2 around a radially outer edge of said disk base extending away from said base wall and underlying
3 said liner for engaging said liner against a radially outer edge of a container finish when said closure
4 is secured to the container finish.

10.

1 The closure set forth in claim 9 wherein said annular rib has a radially inwardly
2 directed surface, onto which a peripheral portion of said liner is molded, that extends axially and
3 radially outwardly from said base of said disk.

11.

1 The closure set forth in claim 61 wherein a thickness of said liner on said radially
2 inwardly directed surface of said rib is less than the thickness of said liner on said disk base and said
3 ring.

12.

1 The closure set forth in claim 61 wherein said closure shell has a bead extending
2 radially inwardly from said skirt adjacent to but spaced from said base wall, and wherein said annular
3 rib has a concave radially outwardly directed surface portion received over said bead.

13.

1 The closure set forth in claim 59 wherein said closure shell includes a bead extending
2 radially inwardly from said skirt at a position spaced from said base wall, and wherein said disk and
liner are loosely captured between said bead and said base wall.

14.

1 The closure set forth in claim 13 wherein said closure shell further includes a tamper-
2 indicating band connected by frangible means to a lower edge of said skirt for abutment with a stop
3 on the container finish, spacing between said bead and said base wall being such that said band abuts
4 the stop and fractures said frangible means before said bead lifts said disk and liner from sealing
5 engagement with the container finish.

15.

1 The closure set forth in claim 59 wherein said liner includes a barrier material against
2 migration of gases, water vapor or flavorants through said liner.

16.

1 A plastic closure that comprises:
2 a plastic closure shell including a base wall, and a peripheral skirt with an internal
3 thread for securing the closure to a container finish,
4 a plastic disk loosely retained parallel to but separate from said base wall, said disk
5 including a flat base with a peripheral portion, an axially extending protrusion for engaging an
6 undersurface of said base wall to space said disk from said base wall, and an annular ring extending
7 axially from said base adjacent to but spaced from a periphery of said disk, and
8 a resilient liner molded onto said disk covering at least a central portion of said base
9 and said ring, said ring urging said liner into sealing engagement with a radially inner edge of a
10 container finish when said closure is secured to the container finish.

17.

1 The closure set forth in claim 16 wherein said liner is molded in situ onto said disk
2 within said closure.

18.

1 The closure set forth in claim 17 wherein said ring has a rounded convex portion that
2 extends from an axial edge of said ring and a rounded concave portion that extends from said convex
3 portion to a flat axially facing surface of said base.

19.

1 The closure set forth in claim 18 wherein said liner includes a barrier resin material
2 to resist migration of gases, water vapor or flavorants through said liner.

20.

1 The closure set forth in claim 16 wherein said protrusion includes an axially extending
2 bead around a peripheral portion of said disk base to space said disk base from said base wall of said
3 shell.

21.

1 The closure set forth in claim 16 wherein said disk further includes an annular rib
2 around a radially outer edge of said disk base extending away from said base wall and underlying said
3 liner for engaging said liner against a radially outer edge of a container finish when said closure is
4 secured to the container finish.

22.

1 The closure set forth in claim 62 wherein said annular rib has a radially inwardly
2 directed surface, onto which a peripheral portion of said liner is molded, that extends axially and
3 radially outwardly from said base of said disk.

23.

1 The closure set forth in claim 22 wherein a thickness of said liner on said radially
2 inwardly directed surface of said rib is less than the thickness of said liner on said disk base and said
3 ring.

24.

1 The closure set forth in claim 22 wherein said closure shell has a bead extending
2 radially inwardly from said skirt adjacent to but spaced from said base wall, and wherein said annular
3 rib has a concave radially outwardly directed surface portion received over said bead.

34.

1 The closure set forth in claim 60 wherein said disk further includes an annular rib
2 around a radially outer edge of said disk base extending away from said base wall and underlying said
3 liner for engaging said liner against a radially outer edge of the container finish when said closure is
4 secured to the container finish.

35.

1 The closure set forth in claim 34 wherein said annular rib has a radially inwardly
2 directed surface, onto which a peripheral portion of said liner is molded, that extends axially and
3 radially outwardly from said base of said disk.

36.

1 The closure set forth in claim 35 wherein said closure shell has a bead extending
2 radially inwardly from said skirt adjacent to but spaced from said base wall, and wherein said annular
3 rib has a concave radially outwardly directed surface portion received over said bead.

37.

1 The closure set forth in claim 60 wherein said liner includes a barrier resin material
2 to resist migration of gases, water vapor or flavorants through said liner.

38.

1 A closure and container package that comprises:
2 a container including a body and a finish with an external thread, and
3 a plastic closure that includes:
4 a plastic closure shell including a base wall, and a peripheral skirt with an internal
5 thread securing the closure to a said container finish,
6 a plastic disk parallel to but separate from said base wall, said disk including a flat base
7 with a peripheral portion, an axially extending protrusion for engaging an undersurface of said base

8 wall to space said disk from said base wall, and an annular ring extending axially from said base
9 adjacent to but spaced from a periphery of said disk, and
10 a resilient liner molded onto said disk covering at least a central portion of said base
11 and said ring, said ring urging said liner into sealing engagement with a radially inner edge of said
12 container finish.

39.

1 The package set forth in claim 38 wherein said liner is molded in situ onto said disk
2 within said closure.

40.

1 The package set forth in claim 39 wherein said ring has a rounded convex portion that
2 extends from an axial edge of said ring and a rounded concave portion that extends from said convex
3 portion to a flat axially facing surface of said base.

41.

1 The package set forth in claim 40 wherein said liner includes a barrier resin material
2 to resist migration of gases, water vapor or flavorants through said liner.

42.

1 The package set forth in claim 38 wherein said protrusion includes an axially
2 extending bead around a peripheral portion of said disk base to space said disk base from said base
3 wall of said shell.

43.

1 The package set forth in claim 38 wherein said disk further includes an annular rib
2 around a radially outer edge of said disk base extending away from said base wall and underlying said
3 liner for engaging said liner against a radially outer edge of said container finish.

44.

1 The package set forth in claim 43 wherein said annular rib has a radially inwardly
2 directed surface, onto which a peripheral portion of said liner is molded, that extends axially and
3 radially outwardly from said base of said disk.

45.

1 The package set forth in claim 63 wherein the thickness of said liner on said radially
2 inwardly directed surface of said rib is less than the thickness of said liner on said disk base and said
3 ring.

46.

1 The package set forth in claim 63 wherein said closure shell has a bead extending
2 radially inwardly from said skirt adjacent to but spaced from said base wall, and wherein said annular
3 rib has a concave radially outwardly directed surface portion received over said bead.

59.

1 A two-piece plastic closure that comprises:
2 a plastic closure shell including a base wall and a peripheral skirt with internal means
3 for securing the closure over a container finish, and
4 a plastic disk loosely retained within said shell parallel to but separate from said base
5 wall, and a resilient sealing liner molded in situ on said disk for sealing engagement with a container
6 finish,
7 said disk including an annular ring underlying said liner on a side of said disk remote
8 from said base wall, said ring being spaced from said skirt for urging said liner against a radially inner
9 edge of a container finish when said closure is secured to the container finish,
10 said disk also including an axially extending protrusion for engaging an undersurface
11 of said base wall to position said disk parallel to and spaced from said base wall.

60.

1 A plastic closure that comprises:
2 a plastic shell including a base wall and a peripheral skirt with internal means for
3 securement to a container finish,

4 a resilient sealing liner for urging by said base wall into sealing engagement with a
5 container finish upon securement of said skirt to the finish, and
6 an annular ring underlying said liner and spaced radially inwardly from said skirt for
7 urging said liner into sealing engagement with a radially inner edge of the container finish,
8 said ring being on a plastic disk loosely retained within said shell parallel to but
9 separate from said base wall,
10 said disk comprising a flat base from which said annular ring extends, and an axially
11 extending bead around a peripheral portion of said disk base to space said disk base from said base
12 wall of said shell.

61.

1 A two-piece plastic closure that comprises:
2 a plastic closure shell including a base wall and a peripheral skirt with internal means
3 for securing the closure over a container finish, and
4 a plastic disk loosely retained within said shell parallel to but separate from said base
5 wall, and a resilient sealing liner molded in situ on said disk for sealing engagement with a container
6 finish,
7 said disk including an annular ring underlying said liner on a side of said disk remote
8 from said base wall, said ring being spaced from said skirt for urging said liner against a radially inner
9 edge of a container finish when said closure is secured to the container finish,
10 said disk comprising a flat base from which said annular ring extends, and

11 an annular rib around a radially outer edge of said disk base extending away from said base wall and
12 underlying said liner for engaging said liner against a radially outer edge of a container finish when
13 said closure is secured to the container finish,

14 said annular rib having a radially inwardly directed surface, onto which a peripheral
15 portion of said liner is molded, that extends axially and radially outwardly from said base of said disk.

62.

1 A plastic closure that comprises:

2 a plastic closure shell including a base wall, and a peripheral skirt with an internal
3 thread for securing the closure to a container finish,

4 a plastic disk loosely retained parallel to but separate from said base wall, said disk
5 including a flat base with a peripheral portion and an annular ring extending axially from said base
6 adjacent to but spaced from a periphery of said disk, and

7 a resilient liner molded onto said disk covering at least a central portion of said base
8 and said ring, said ring urging said liner into sealing engagement with a radially inner edge of a
9 container finish when said closure is secured to the container finish,

10 said disk including an annular rib around a radially outer edge of said disk base
11 extending away from said base wall and underlying said liner for engaging said liner against a radially
12 outer edge of a container finish when said closure is secured to the container finish.

63.

1 A closure and container package that comprises:

2 a container including a body and a finish with an external thread, and

3 a plastic closure that includes:

4 a plastic closure shell including a base wall, and a peripheral skirt with an internal
5 thread securing the closure to a said container finish,

6 a plastic disk parallel to but separate from said base wall, said disk including a flat base
7 with a peripheral portion and an annular ring extending axially from said base adjacent to but spaced
8 from a periphery of said disk, and

9 a resilient liner molded onto said disk covering at least a central portion of said base
10 and said ring, said ring urging said liner into sealing engagement with a radially inner edge of said
11 container finish,

12 said disk including an annular rib around a radially outer edge of said disk base
13 extending away from said base wall and underlying said liner for engaging said liner against a radially
14 outer edge of said container finish, said annular rib has a radially inwardly directed surface, onto
15 which a peripheral portion of said liner is molded, that extends axially and radially outwardly from
16 said base of said disk.

64.

1 The closure set forth in claim 16 wherein said closure shell includes an internal bead

2 adjacent to but spaced from said base wall, and said plastic disk is loosely retained in said shell by

3 said bead.

65.

1 The package set forth in claim 38 wherein said closure shell includes an internal bead
2 adjacent to but spaced from said base wall, and said plastic disk is loosely retained in said shell by
3 said bead.